Claims

1) Nucleic acid sequence encoding two subunit polypeptides of a urease complex such as expressed by *Helicobacter felis*, said nucleic acid sequence having at least 85 % homology with SEQ ID NO: 1, or a part thereof encoding at least an immunogenic fragment of one of said subunits, said part having a length of at least 40, preferably 45, more preferably 50 nucleotides.

2) Nucleic acid sequence according to claim 1, characterised in that it encodes the urease X subunit polypeptide or the urease Y subunit polypeptide.

3) Nucleic acid sequence according to claim 1 or 2, characterised in that the sequence has at least 90 %, preferably 94 %, more preferably 97 % homology with SEQ ID NO: 1.

4) DNA fragment comprising a nucleic acid sequence according to claims 1-3

5) Recombinant DNA molecule comprising a nucleic acid sequence according to claims 1-3 or a DNA fragment according to claim 4, under the control of a functionally linked promoter.

6) Live recombinant carrier comprising a recombinant DNA molecule according to claim 5

7) Host cell comprising a nucleic acid sequence according to claims 1-3, a DNA fragment according to claim 4, a recombinant DNA molecule according to claim 5 or a live recombinant carrier according to claim 6.

8) *Helicobacter felis* urease X subunit polypeptide, said polypeptide having an amino acid sequence that is at least 85 % homologous to SEQ ID NO: 2 or an immunogenic fragment of said polypeptide with a length of at least 40, preferably 45, more preferably 50 amino acids said immunogenic fragment being capable of inducing an immune response against ureaseXY.

9) Polypeptide according to claim 8, having a sequence homology of at least 90 %, preferably 94 %, more preferably 97 % homology to SEQ ID NO: 2, or an immunogenic fragment of said polypeptide capable of inducing an immune response against ureaseXY.

10) *Helicobacter felis* urease Y subunit polypeptide, said polypeptide having an amino acid sequence that is at least 85 % homologous to SEQ ID NO: 3 or an immunogenic fragment of said polypeptide with a length of at least 40, preferably 45, more preferably 50 amino acids said immunogenic fragment being capable of inducing an immune response against ureaseXY.

11) Polypeptide according to claim 10, having a sequence homology of at least 90 %, preferably 94 %, more preferably 97 % homology to SEQ ID NO: 3, or an immunogenic fragment of said polypeptide capable of inducing an immune response

against ureaseXY.

12) Polypeptide according to claims 8-11 for use in a vaccine

13) Use of a polypeptide according to claims 8-11 in the manufacturing of a vaccine for combating *Helicobacter felis* infections.

14) Vaccine for combating *Helicobacter felis* infections, characterised in that it comprises a nucleic acid sequence according to claims 1-3, a DNA fragment according to claim 4, a recombinant DNA molecule according to claim 5, a live recombinant carrier according to claim 6, a host cell according to claim 7 or a polypeptide according to claims 8-11, and a pharmaceutically acceptable carrier.

15) Vaccine according to claim 14, characterised in that it comprises an adjuvant.

16) Vaccine according to claim 14 or 15, characterised in that it comprises an additional antigen derived from a virus or micro-organism pathogenic to mammals or genetic information encoding said antigen.

17) Vaccine according to claim 16, characterised in that said virus or micro-organism pathogenic to mammals is selected from the group of Feline Infectious Peritonitis virus, Feline Immune deficiency virus, Canine and Feline Parvovirus, Distemper virus, Adenovirus, Calicivirus, *Bordetella bronchiseptica, Borrelia burgdorferi, Leptospira interrogans, Chlamydia* and *Bartonella henseli*.

18) Vaccine for combating *Helicobacter felis* infections, characterised in that it comprises antibodies against a polypeptide according to claims 8-11.

19) Method for the preparation of a vaccine according to claims 14-17, said method comprising the admixing of a polypeptide according to claims 8-11 and a pharmaceutically acceptable carrier.

20) Diagnostic test for the detection of *Helicobacter felis* specific DNA characterised in that the test comprises a nucleic acid sequence according to claims 1-3, or a fragment thereof.

21) Diagnostic test for the detection of antibodies against *Helicobacter felis*, characterised in that said test comprises a polypeptide or a fragment thereof as described in claims 8-11.

22) Diagnostic test for the detection of antigenic material of *Helicobacter felis*, characterised in that said test comprises antibodies against a polypeptide or a fragment thereof as described in claims 8-11.